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ABSTRACT

Understanding the connections between students' levels of intellectual development, their view of the nature of knowledge, and their developing argumentative writing skills is central to helping students learn to write good argumentation. The first researcher to develop a model of intellectual development among college students was William Perry in his study of students at Harvard University in the 1950s. Mary Field Belenky articulated a cognitive-developmental theory based on Perry's work but focused on the intellectual development of women. M. L. Davison and others developed a model of reflective judgment in college students and adults. The newest formulation of a model of adult cognitive development is Michael Basseches's model of dialectical thinking, a stage of cognitive development beyond Piaget's formal operations. Basseches does not address the issue of the influence of dialectical thinking on students' ability to form and write effective arguments, but his research suggests that level of dialectical thinking increases with level of formal education. A college English instructor is carrying out a study to attempt to learn which model of cognitive development best predicts success on an argumentative writing task in first-year composition. The instructor predicts that either the Perry scheme or the reflective judgment stage would more closely correlate with writing effectiveness. The next stage in this line of research would be to determine which curricula and instructional methods would best foster intellectual development and the ability to form effective arguments. (Contains 14 references.) (RS)

Theories of Cognitive Development and the Teaching of Argumentation in First-Year Composition

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Theories of Cognitive Development and the Teaching of Argumentation in First-Year Composition

From the time of Aristotle and the other Greek rhetoricians, writing teachers have tried to teach their students the skills of argumentative reasoning and writing. Most first-year composition courses or course sequences provide some formal instruction in argumentation. Most composition instructors find that teaching students to write effective arguments is no simple task. While, of course, some of our students have no trouble producing effective argumentative papers, many others--even those who can write acceptable narration and description and whose writing shows college-level skills in grammar, mechanics, and organization--often struggle with the intellectual demands of persuasive writing. As an composition instructor, I have sat in many writing conferences with students who were convinced that all they needed to do was state their own impassioned view on an issue to have written a good paper. They were puzzled and resistant when I suggested they need to acknowledge views opposed to their own and offer evidence to support their claims.

Yet I love teaching argument. I believe that the thinking and writing skills I am trying to teach are important, even essential ones, for college students to learn. Over the last several years, I have attempted to study why students have difficulties learning to write argumentative prose. Some writers like Myra Kogen believe that students who are unsuccessful in such writing experience problems primarily because they lack familiarity with academic conventions and ways of formulating ideas. Other researchers, like Janice Hays, while agreeing with Kogen that students do need specific instruction in

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academic writing, maintain that the level of the students' intellectual development affects their ability to write effective argumentative writing.

I began to look more closely at the work on intellectual development in college students of such theorists as William Perry, Karen Kitchener and Patricia King, and William Basseches. I have come to believe that understanding the connections between students' levels of intellectual development--and their view of the nature of knowledge--and their developing argumentative writing skills is central to helping students learn to write good argumentation. I believe that what Joanne Kurfiss says about critical thinking is also true about argumentative writing skills: that "students' difficulties . . . can be better understood by considering the assumptions about knowledge, truth, authority, and inquiry implicit in the process" (p. 51) of thinking critically itself. Attempts to assess and teach critical thinking and argumentation in college must recognize that students' varying and changing personal epistemologies, or theories about the nature of knowledge and learning, will affect their critical thinking skills they use when writing argumentation and other kinds of persuasive college writing. I wish to share my explorations of the connections between levels of intellectual or cognitive development and success in writing argumentation. I will then outline a research project I have begun to study these connections.

The first researcher to develop a model of intellectual development among college students is, of course, William Perry in his study of students at Harvard University in the 1950s, most of whom were male. As you know, based on data obtained from unstructured interviews,

Perry determined that students go through up to nine predictable stages (he prefers the term positions) of cognitive growth as they attempt to cope with the demands of a pluralistic college environment. He describes these nine positions or levels and their alternatives in his book Forms of Intellectual and Ethical Development in the College Years: A Scheme (59-200) and his article "Cognitive and Ethical Growth: The Making of Meaning" (78-96). These positions are generally classified into four groups called Dualism, Multiplicity, Relativism, and Commitment in Relativism and make up the Perry scheme.

The stages of the Perry scheme focus on how students use knowledge and authority and their own role in their decisions and how they make meaning. Students start from the Dualistic stages--in which there are clear right and wrong answers and Authority in the form of teachers knows the right answers which students must determine by hard work. Students then reach the Multiplicity stages--in which they recognize that knowledge is uncertain (the diversity of opinion at most colleges often confronts students with an uncomfortable awareness of uncertainty about the right answer) and that even Authorities do not always have the right answer. In these stages, students believe that, because knowledge is uncertain, everyone has the right to his or her own opinion. I am sure most of us have dealth with students who felt no need to provide a convincing argument for a stand because "everyone has the right to their own opinion."

Only when students reach position 4 of Perry's scheme, a position which involves the beginning understanding of Relativism, do they see that knowledge is relative, that authorities do not know all the right answers, and that various frames of reference must be used to make

meaning of information and ideas. Students thus come to realize that, as Perry articulates their thinking, "Authorities are not asking for the Right Answer; They want us to think about things in a certain way, supporting opinion with data" (Perry, "Cognitive" 79; his italics). In the final positions of the scheme, the Commitment in Relativism positions, students apply contextual relativistic thinking to other areas of their lives beyond school and to the commitments they make. They understand that they must make commitments in a relativistic world in which there is no certainty.

Perry felt the pivotal position was position 4. Moving to contextual relativistic thinking is an important watershed in human cognitive development. Achieving contextual relativistic thinking is probably essential for doing well in demanding college work, including the construction of effective arguments. There has been some empirical work looking for connections among Perry scheme level and writing successful argumentative writing. Janice N. Hays, Kathleen M. Brandt, and Kathryn H. Chantry found, for example, in their study of student argumentative writing that students at students at higher Perry levels write more effective argumentative essays on a controversial topic, in the case of their research on drunk driving laws written to both friendly and hostile audiences. They found that Perry score was a better predictor for scores on both the friendly and hostile audience papers than the students' age, grade, or gender.

Belenky et al. articulated in Women's Ways of Knowing: The Development of Self, Voice, and Mind a cognitive-developmental theory based on Perry's work but focused on the intellectual development of women. They maintain that women go through stages from Silence to

Received Knowledge to Subjective Knowledge to Procedural Knowledge to Constructed Knowledge. Some theorists, like Joanne Kurfiss, believe Perry's ideas and those of Belenky et al. can be combined into a common, complementary model, while others, such as Janis Tesdesco, prefer to stress the distinctions. While Belenky et al. advocate a midwife role for college teachers as they seek to encourage their students to develop their own voice, there has been little work studying possible connections among cognitive-developmental stages as Belenky et al. describe them and students' ability to write effective argumentation.

Kitchener and King have developed a model of reflective judgment in college students and adults based on Perry's work. As Davison, King, and Kitchener explain, "the reflective judgment model attempts to describe a series of changes that occur in the ways adolescents and adults undertand the nature of intellectual problems and judge the adequacy of alternative solutions" (265). This model outlines seven stages, which "form a sequence of seven qualitatively different sets of assumptions about what can be known, how certain we can be about knowing, and the role of evidence, authority, and interpretation of the formation of a solution for a problem" (Davison, King, and Kitchener 268). In the reflective judgment model, students are asked questions in interviews about 4 dilemmas in the domains of physical science, social science, history, and biology. The dilemmas represent ill-structured problems, or problems in which there is a great deal of uncertainty even for knowledgeable experts.

In the reflective judgment model, students move from absolute certainty that what one "observes to be true is true" (Davison, King,

and Kitchener 269) to an acknowledgement that uncertainty exists with confusion about how to make decisions about knowledge to contextual relativism, "distinguished by the belief that knowledge must be understood within a context" (Davison, King, and Kitchener 271) with evidence being required to support a claim to a final stage in which people believe that "evidence and interpretation can be synthesized into epistemically justifiable claims" (Davison, King, and Kitchener 271). Individuals can now use reflective judgment and "construct points of view about problems via critical inquiry or through synthesis of existing views and evidence into a coherent or meaningful solution" (Davison, King, and Kitchener 271). While knowers at this stage acknowledge that uncertainty is always part of knowing, they believe some knowledge claims are more adequate than others based on data, evidence, and interpretation across contexts.

According to the research cited by Davison, King, and Kitchener educational level influences the progress students make through the seven stages. Most studies show that reflective judgment score increases with the number of years of schooling from high school level to advanced doctoral level (King and Kitchener 40). Apparently, formal academic work increases the ability to make knowledge claims based on the evaluation of data, evidence, and context. Thus, students learn how to make evidence-based data claims, or arguments in college and graduate school. Hays, Brandt, and Chantry also found that educational level was positively correlated to writing scores.

Davison, King, and Kitchener do discuss the educational implications of the reflective judgment model, suggesting how students can be encouraged to encounter diversity of opinion and to learn to evaluate

data, evidence, and the interpretations of authorities across contexts. Again, however, little empirical work has been done on the influence of Reflective Judgment score on the ability to write effective essays, although Kroll has written about a study of a unit he taught focused on different interpretations of several events during the Viet Nam War, including the Hue massacre. He categorized students by what he called "conceptual orientation" (293)--a concept influenced by the work of Perry and Kitchener and King. According to Kroll, these orientations ranged from dogmatic, perspectivist, intuitive, and analytical and reflected students responses to two different accounts of the battle. He found his unit, with its demands that students encounter alternative interpretations of the same event, helped many students move up in the level of the conceptual orientation as that was reflected in their writing. Certainly, Kroll's study suggests that instruction can help students increase their level of cognitive development and the quality of their writing

The newest formulation of a model of adult cognitive development is Michael Basseches's model of dialectical thinking, a stage of cognitive development beyond Piaget's formal operations. According to Basseches, dialectical thinking is based on the recognition and valuing of dialectic or "developmental transformation (i.e., developmental movement through forms) which occurs via constitutive and interactive relationships" (p. 22). Basseches posits that dialectical thinking involves thinking patterns that develop in young people and adults after the appearence of Piaget's formal operations and allows the knower to move beyond the closed-system thinking that Piaget's formal operations requires. It involves the ability to see

past the limits of formal thinking and to conceptualize the developmental transformation of forms and systems into new ones which incorporate some of what existed before with the changes that have been made in a thesis-antithesis-synthesis dialectical movement.

Basseches has identified 24 schemata, or moves in thought, which characterize dialectical thinking in interviews with subjects discussing the general topic of the nature of education. These schemata range from a researcher-observed "thesis-antithesis-synthesis movement in thought" to the "location by the subject of an element or phenomenon within the whole(s) of which it is a part" to the "assertion of the existence of relations, the limits of separation or the value of relatedness "among ideas or phenomena by the subject to the "description of open self-transforming systems" (Basseches 74) by the subject. Basseches assumes that "higher education often plays an important role in facilitating the development of dialectical thinking in late adolescence and adulthood" (p. 164).

Basseches does not address the issue of the influence of dialectical thinking on students' ability to form and write effective arguments, but his research suggests that level of dialectical thinking increases with level of formal education. Because writing effective argumentation requires the ability to recognize change, paradox, and coherence and contradiction in systems (an argument is a conceptual system with a changeable form and structure), and thus to employ some of the dialectical schemata Basseches describes, it is possible that argumentative writing skill is associated in some way with the ability to use dialectical thinking in developing and writing an argumentative essay. It would appear that a person's ability to form sophisticated

arguments (which few first-year composition students are able to do) could be influenced by his or her level of dialectical thinking. Irwin has studied the effect of the level of dialectical thinking on the argumentative writing of first-year composition students, but little other research on the connections between dialectical thinking and writing ability in argumentative or other types of writing has been done.

I am currently planning and carrying out a study in which I will attempt to learn which model of cognitive development--the Perry scheme, Kitchener and King's reflective judgment model, or Basseches's model of dialectical thinking--best predicts success on an argumentative writing task in first-year composition. This will be a correlational study with the independent variable being the students' level of intellectual development, which will be operationally defined for the Perry scheme by ratings for the argumentative essays given by independent raters (Hays used this methodology), for the reflective judgment model by interview scores on dilemmas as assigned by certified raters, and by scores on the Olsen, Basseches, & Richards Dialectical Thinking Comprehension and Preference test. Interviews to assess Perry score and dialectical thinking score will be carried out for a subsample of students to validate the essay and objective instrument score, a commonly recommended procedure.

The independent variable will be the student's score for writing quality on the assignment argumentative essay task, a score that will be determined by means of primary trait scoring by two raters. The primary trait evaluated will be argumentative effectiveness and coherence, which will be assessed by means of such criteria as the

clear statement of a claim and the effective use of data and evidence to support statements. The students are to be drawn from two classes of first-year composition students: one at a private, four-year liberal arts college and one at a public community college to try to insure diversity in age, gender, and ethnic and educational background. Other variables to be looked at include the age and gender of the subjects. The research has not always been clear about the influence of these variables on intellectual development, although Kitchener and King and Basseches both suggest that it is formal education, not age alone, which seems to have the greatest influence on the level of intellectual development and Belenky et al. and Magolda suggest that women show different patterns of intellectual development in the college years. I am also controling for SAT Verbal scores in order to compare students of similar ability and aptitude levels. Level of intellectual development may be influenced by verbal or intellectual ability or aptitude.

At this point, I would predict that either the Perry scheme or the reflective judgment stage would more closely correlate with the writing effectiveness of argumentative essays of first-year composition students. Although Perry himself found that many students achieved contextual relativism (position 5) only in their junior and senior years and Davison, King, and Kitchener point out that most freshmen score at stage 3 or between stage 3 and 4 (where ill-structured problems and the uncertainty of knowledge or not acknowledged or only beginning to be so), their models do not require the complexity of thinking that the dialectical thinking model appears to describe. I believe that Kitchener and King's reflective judgment

model probably best describes the type of thinking and reasoning college teachers expect their students to do in writing argumentative essays. They expect students to make definite claims--even in a world where absolute knowledge and certainty do not exist--and support those claims with convincing data and evidence appropriate for the context in which the claim is being made while acknowledging and responding to appropriate counterarguments. The reflective judgment model may best represent what kinds of thinking college instructors are trying to foster in their students when they teach argumentative writing.

The next stage in this line of research would be to determine which curricula and instructional methods would best foster intellectual development and the ability to form effective arguments. Instructors need to know how best to provide the "challenges and supports" Sanford and others interested in development believe are necessary to promote intellectual and personal growth. Davison, Kitchener, and King--along with Knefelkamp, Widick, and Kroll--have suggested some guidelines which center around supporting students while they confront diversity, complexity, and contradictory views of knowledge and evidence. Composition instructors will need to continue to develop and test classroom-based research approaches that guide our students--just as Aristotle sought to--as they develop intellectually and learn to write effective arguments.

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